

WHAT IS CLAIMED IS:

- 1 1. A man-machine interface method for assisting a user
2 in a decision making process, for use with a machine
3 having a video monitor device and a user input device,
4 the man-machine interface method comprising steps of:
5 a) accepting an event from the user input device;
6 and
7 b) generating a display for output on the video
8 monitor device, the display including
9 i) a first window displaying first information
10 of a first type, the first information being
11 related to the event, and
12 ii) a second window displaying second
13 information of a second type, the second
14 information being related to the event.
- 1 2. The man-machine interface method of claim 1 wherein
2 the display generated simulates a three-dimensional
3 environment in which the first and second windows reside.
- 1 3. The man-machine interface method of claim 2 wherein
2 the first and second windows are represented as sides of
3 an unfolded geometric object.
- 1 4. The man-machine interface method of claim 2 wherein
2 the first and second windows are represented as sides of
3 an unfolded cube.

5. The man-machine interface method of claim 2 wherein each of the first and second windows include a maximize button,
- wherein when the maximize button of the first window is selected, a display having the first window, arranged in normal, head-on, view, is generated, and
- wherein when the maximize button of the second window is selected, a display having the second window, arranged in normal, head-on, view, is generated.
6. The man-machine interface method of claim 1 further comprising a step of:
- c) generating a visual indicator for associating the first information of the first window and the second information of the second window.
7. The man-machine interface method of claim 6 wherein the visual indicator is selected from a group of visual indicators consisting of (a) a colored line, (b) a colored ray, and (c) a colored arc.
8. The man-machine interface method of claim 7 wherein the visual indicator is translucent.
9. The man-machine interface method of claim 1 wherein the first window includes alternative representations of the first information, each of which is related to the event.

1 10. The man-machine interface method of claim 9 wherein
2 the first window depicts a calendar having a number of
3 alternative time sequences, wherein the alternative
4 representations of the first information may be an
5 alternative time duration on each of the alternative time
6 sequences.

1 11. The man-machine interface method of claim 1 further
2 comprising a step of:

3 c) forming a search query based, at least in part,
4 on contents of the event.

1 12. The man-machine interface method of claim 11 wherein
2 the search query is further based, at least in part, on a
3 user profile.

1 13. The man-machine interface method of claim 11 further
2 comprising steps of:

3 d) returning a result of the search query;
4 e) determining whether the result includes any
5 information of the first type or of the second type;
6 and

7 f) if the result includes any information of the
8 first type, generating a visual representation of
9 such information on the first window, and if the
10 result includes any information of the second type,
11 generating a visual representation of such
12 information on the second window.

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1 14. The man-machine interface method of claim 1 wherein
2 the first window is a bulletin board, and
3 wherein a note, having contents entered by a user,
4 is arranged on the bulletin board and defines the event.

1 15. The man-machine interface method of claim 1 wherein
2 the first window is a map, and
3 wherein a place of the map related to the event
4 includes a marker.

1 16. The man-machine interface method of claim 15 wherein
2 the marker is a colored circle.

1 17. The man-machine interface method of claim 16 wherein
2 the marker is translucent.

1 18. The man-machine interface method of claim 16 wherein
2 the second window is a bulletin board,
3 wherein a note, having contents entered by a user,
4 is arranged on the bulletin board, defines the event, and
5 has a color which matches the color of the marker.

1 19. The man-machine interface method of claim 1 wherein
2 the first window is an information browser.

1 20. The man-machine interface method of claim 19 further
2 comprising a step of:
3 c) forming a search query based, at least in part,
4 on contents of the event.

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a) 1 21. The man-machine interface method of claim 20 wherein
2 the search query is further based, at least in part, on a
3 user profile.

1 22. The man-machine interface method of claim 20 further
2 comprising steps of:

3 d) submitting the search query to the information
4 browser;

5 e) returning a result of the search query;

6 f) determining whether the result includes any
7 information of the second type; and

8 g) if the result includes any information of the
9 second type, generating a visual representation of
10 such information on the second window.

1 23. The man-machine interface method of claim 22 wherein
2 the information browser is selected from a group
3 consisting of (a) a browser for browsing HTML pages, (b)
4 a browser for browsing documents, (c) a browser for
5 browsing databased files, (d) a browser for browsing a
6 schedule, (e) a browser for browsing a to do list, and
7 (f) a browser for browsing contacts.

1 24. The man-machine interface method of claim 22 wherein
2 the second window is a map, and

3 wherein information of the second type includes
4 places and addresses.

25. A man-machine interface for assisting a user in a decision making process, for use with a machine having a video monitor device and a user input device, the man-machine interface comprising:
- a) a standby state in which a display including a simulated three dimensional environment having
 - i) a first window displaying first information of a first type, the first information defining an event, and
 - ii) a second window displaying second information of a second type, the second information being related to the event, is generated for rendering on the video monitor device;
 - b) a first window update state during which the user can update the first window by entering commands via the user input device;
 - c) a second window update state during which the user can update the second window by entering commands via the user input device;
 - d) a first window focus view state in which a display including the first window, arranged in a normal head-on view, is generated for rendering on the video monitor device; and
 - e) a second window focus view state in which a display including the second window, arranged in a normal head-on view, is generated for rendering on the video monitor device.

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1 26. The man-machine interface of claim 25 wherein, when
2 in the standby state,
3 i) if a first user command is received from
4 user input device, the first window update
5 state is entered,
6 ii) if a second user command is received from
7 user input device, the second window update
8 state is entered,
9 iii) if a third user command is received from
10 user input device, the first window focus view
11 state is entered, and
12 iv) if a fourth user command is received from
13 the user input device, the second window focus
14 view state is entered.

1 27. The man-machine interface of claim 26 wherein the
2 first user command is locating a cursor over the first
3 window, the second user command is locating a cursor over
4 the second window, the third user command is clicking a
5 maximize button of the first window, and the fourth user
6 command is clicking a maximize button of the second
7 window.

1 28. The man-machine interface of claim 26 wherein each
2 of the first window focus view state and the second
3 window focus view state include a world-in-miniature tool
4 which includes a representation of the standby state.

1 29. The man-machine interface of claim 26 wherein, when
2 in the first window focus view state,

- 3 i) if a first user command is received from the
4 input device, the standby state is entered, and
5 ii) if a second user command is received from the
6 input device, the second window focus view state is
7 entered.

1 30. The man-machine interface of claim 29 wherein the
2 first user command is a click on a minimize button on the
3 first window and the second user command is a flicking
4 gesture.

1 31. A method for managing a man-machine interface,
2 including
3 - a first window for displaying first information
4 of a first type, the first information being related
5 to an event, and
6 - a second window for displaying second information
7 of a second type, the second information being
8 related to the event,

9 for assisting a user in a decision making process, for
10 use with a machine having a video monitor device and a
11 user input device, the method comprising steps of:

- 12 a) accepting user commands from the user input
13 device;
14 b) updating states of the first and second windows
15 based on the user commands accepted;
16 c) determining a state of the man-machine interface
17 based on the user commands accepted; and

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- i) if the state of the man-machine interface is a standby state,
 - A) generating a display of a three dimensional environment including the first and second windows for rendering on the video monitor device, and
 - B) generating a visual link from the first information in the first window to the second information in the second window,
- ii) if the state of the man-machine interface is a first window focus view state, generating a display of the first window in a normal, head on, view, and
- iii) if the state of the man-machine interface is a second window focus view state, generating a display of the second window in a normal, head on, view.

32. The method of claim 31 wherein the step of updating states of the first and second windows based on the user commands accepted includes steps of:

- i) generating an query based on at least one of the (a) the user inputs and (b) a user profile;
- ii) processing the query to generate a return; and
- iii) determining whether the return includes information of the first type or information of

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11 the second type, wherein if the return includes
12 information of the first type, the first window
13 is updated, and wherein if the return includes
14 information of the second type, the second
15 window is updated.

1 33. The method of claim 31 wherein the first window is a
2 bulletin board, and wherein the step of updating states
3 of the first and second windows based on the user
4 commands accepted includes steps of:

- 5 i) determining whether a cursor is on the
6 first window and if so,
7 A) determining whether a note creation
8 command was entered and if so, accepting
9 text via the user input device;
10 B) determining whether a note edit
11 command was entered and if so, editing a
12 note based on entries from the user input
13 device;
14 C) determining whether a note posting
15 command was entered and if so,
16 - generating a query based on the
17 contents of the note,
18 - processing the query to generate a
19 return, and
20 - determining whether the return
21 includes any information of the
22 second type and if so, updating the
23 second window; and

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24 D) determining whether a note move
25 command was entered and if so, updating a
26 location of the note on the bulletin
27 board.

1 34. The method of claim 33 wherein the note creation
2 command is a mouse click when a cursor is located over an
3 empty part of the bulleting board,
4 wherein the note edit command is a mouse click when
5 a cursor is located over an existing note on the bulletin
6 board,
7 wherein a note posting command is a flicking
8 gesture, and
9 wherein a note move command is a mouse drag.

1 35. The method of claim 33 wherein, if one of a note
2 creation command and a note edit command is entered,
3 further performing a step of displaying the note in a
4 normal, head on, view in a foreground of the three
5 dimensional environment.

1 36. The method of claim 31 wherein the first window is a
2 map,
3 wherein the map includes a marker at a location
4 associated with the event, and
5 wherein the step of updating states of the first and
6 second windows based on the user commands accepted
7 includes steps of:
8 i) determining whether a cursor is on the
9 first window and if so,

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- 10 A) determining whether a marker delete
11 command is entered and if so, deleting the
12 marker from the map, and
13 B) determining whether a marker move
14 command is entered and if so, moving the
15 marker on the map.

1 37. The method of claim 36 wherein if a marker move
2 command is entered, the event is updated to reflect its
3 new location.

1 38. The method of claim 31 wherein the first window is a
2 calendar,

3 wherein the calendar includes a number of
4 alternative time lines,

5 wherein the calendar includes an interval at a date
6 associated with the event, in each of the alternative
7 time lines, and

8 wherein the step of updating states of the first and
9 second windows based on the user commands accepted
10 includes steps of:

11 i) determining whether a cursor is on the
12 first window and if so,

13 A) determining a selected one of the
14 alternative time lines,

15 B) determining whether an interval in the
16 selected one of the alternative time lines
17 is subject to a move command and if so,
18 moving the interval,

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19 C) determining whether an interval in the
20 selected one of the alternative time lines
21 is subject to a lengthen command and if
22 so, lengthening the duration of the
23 interval,
24 D) determining whether an interval in the
25 selected one of the alternative time lines
26 is subject to a shorten command and if so,
27 shortening the duration of the interval,
28 E) determining whether an interval in the
29 selected one of the alternative time lines
30 is subject to a deletion command and if
31 so, deleting the interval, and
32 F) determining whether an interval
33 creation command is entered and if so,
34 generating an interval in at least the
35 selected one of the alternative time
36 lines.

1 39. The method of claim 31 wherein if the state of the
2 man-machine interface is the standby state, and if the
3 first window is maximized, the first window focus view
4 state is entered, and

5 wherein if the state of the man-machine interface is
6 the standby state, and if the second window is maximized,
7 the second window focus view state is entered.

1 40. The method of claim 31 wherein if the state of the
2 man-machine interface is the first window focus view

3 state, and if the first window is minimized, the standby
4 state is entered, and
5 wherein if the state of the man-machine interface is
6 the first window focus view state, and if a flicking
7 gesture is entered, the second window focus view state is
8 entered.

1 41. A system for assisting a user in a decision making
2 process, the system comprising:

- 3 a) an input facility for accepting user inputs;
- 4 b) a processing facility for
 - 5 i) accepting user inputs from the input
 - 6 facility,
 - 7 ii) determining an event based on user inputs
 - 8 from the input facility,
 - 9 iii) determining first information of a first
 - 10 type, the first information being related to
 - 11 the event,
 - 12 iv) determining second information of a second
 - 13 type, the second information being related to
 - 14 the event,
 - 15 v) determining a first window including a
 - 16 visual representation of the first information,
 - 17 vi) determining a second window including a
 - 18 visual representation of the second
 - 19 information,
 - 20 vii) generating a simulated three dimensional
 - 21 environment,
 - 22 viii) determining a display state based on user
 - 23 inputs from the input facility, and

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24 ix) generating video outputs including
25 A) the first and second windows arranged
26 in the simulated three dimensional
27 environment when a first display state is
28 determined,
29 B) the first window, in a normal, head
30 on, view when a second display state is
31 determined, and
32 C) the second window, in a normal, head
33 on, view when a third display state is
34 determined; and
35 c) a video monitor unit for rendering the video
36 outputs generated by the processing facility.

1 42. The system of claim 41 wherein the processing
2 facility further updates states of the first and second
3 windows based on the user commands accepted by the input
4 facility.

1 43. The system of claim 42 wherein the processing
2 facility updates states of the first and second windows
3 by:

4 i) generating an query based on at least one
5 of the (a) the user inputs and (b) a user
6 profile;
7 ii) processing the query to generate a return;
8 and
9 iii) determining whether the return includes
10 information of the first type or information of
11 the second type, wherein if the return includes

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12 information of the first type, the first window
13 is updated, and wherein if the return includes
14 information of the second type, the second
15 window is updated.

1 44. The system of claim 42 wherein the first window is a
2 bulletin board, and wherein the processing facility
3 updates states of the first and second windows by:

- 4 i) determining whether a cursor is on the
5 first window and if so,
6 A) determining whether a note creation
7 command was entered and if so, accepting
8 text via the user input device;
9 B) determining whether a note edit
10 command was entered and if so, editing a
11 note based on entries from the user input
12 device;
13 C) determining whether a note posting
14 command was entered and if so,
15 - generating a query based on the
16 contents of the note,
17 - processing the query to generate a
18 return, and
19 - determining whether the return
20 includes any information of the
21 second type and if so, updating the
22 second window; and
23 D) determining whether a note move
24 command was entered and if so, updating a

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25 location of the note on the bulletin
26 board.

1 45. The system of claim 44 wherein the note creation
2 command is a mouse click when a cursor is located over an
3 empty part of the bulletin board,
4 wherein the note edit command is a mouse click when
5 a cursor is located over an existing note on the bulletin
6 board,
7 wherein a note posting command is a flicking
8 gesture, and
9 wherein a note move command is a mouse drag.

1 46. The system of claim 44 wherein, if one of a note
2 creation command and a note edit command is entered, the
3 note is displayed, on the video monitor, in a normal,
4 head on, view in a foreground of the three dimensional
5 environment.

1 47. The system of claim 42 wherein the first window is a
2 map,
3 wherein the map includes a marker at a location
4 associated with the event, and
5 wherein the processing facility updates states of
6 the first and second windows by:
7 i) determining whether a cursor is on the
8 first window and if so,
9 A) determining whether a marker delete
10 command is entered and if so, deleting the
11 marker from the map, and

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12 B) determining whether a marker move
13 command is entered and if so, moving the
14 marker on the map.

1 48. The system of claim 47 wherein if a marker move
2 command is entered, the processing facility updates the
3 event to reflect its new location.

1 49. The system of claim 42 wherein the first window is a
2 calendar,

3 wherein the calendar includes a number of
4 alternative time lines,

5 wherein the calendar includes an interval at a date
6 associated with the event, in each of the alternative
7 time lines, and

8 wherein the processing facility updates states of
9 the first and second windows by:

10 i) determining whether a cursor is on the
11 first window and if so,

12 A) determining a selected one of the
13 alternative time lines,

14 B) determining whether an interval in the
15 selected one of the alternative time lines
16 is subject to a move command and if so,
17 moving the interval,

18 C) determining whether an interval in the
19 selected one of the alternative time lines
20 is subject to a lengthen command and if

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21 so, lengthening the duration of the
22 interval,
23 D) determining whether an interval in the
24 selected one of the alternative time lines
25 is subject to a shorten command and if so,
26 shortening the duration of the interval,
27 E) determining whether an interval in the
28 selected one of the alternative time lines
29 is subject to a deletion command and if
30 so, deleting the interval, and
31 F) determining whether an interval
32 creation command is entered and if so,
33 generating an interval in at least the
34 selected one of the alternative time
35 lines.

1 50. A tangible medium storing or communicating machine
2 readable instructions which, when executed by a machine,
3 performs steps of:
4 a) accepting an event from the user input device;
5 and
6 b) generating a display for output on the video
7 monitor device, the display including
8 i) a first window displaying first information
9 of a first type, the first information being
10 related to the event, and
11 ii) a second window displaying second
12 information of a second type, the second
13 information being related to the event.

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